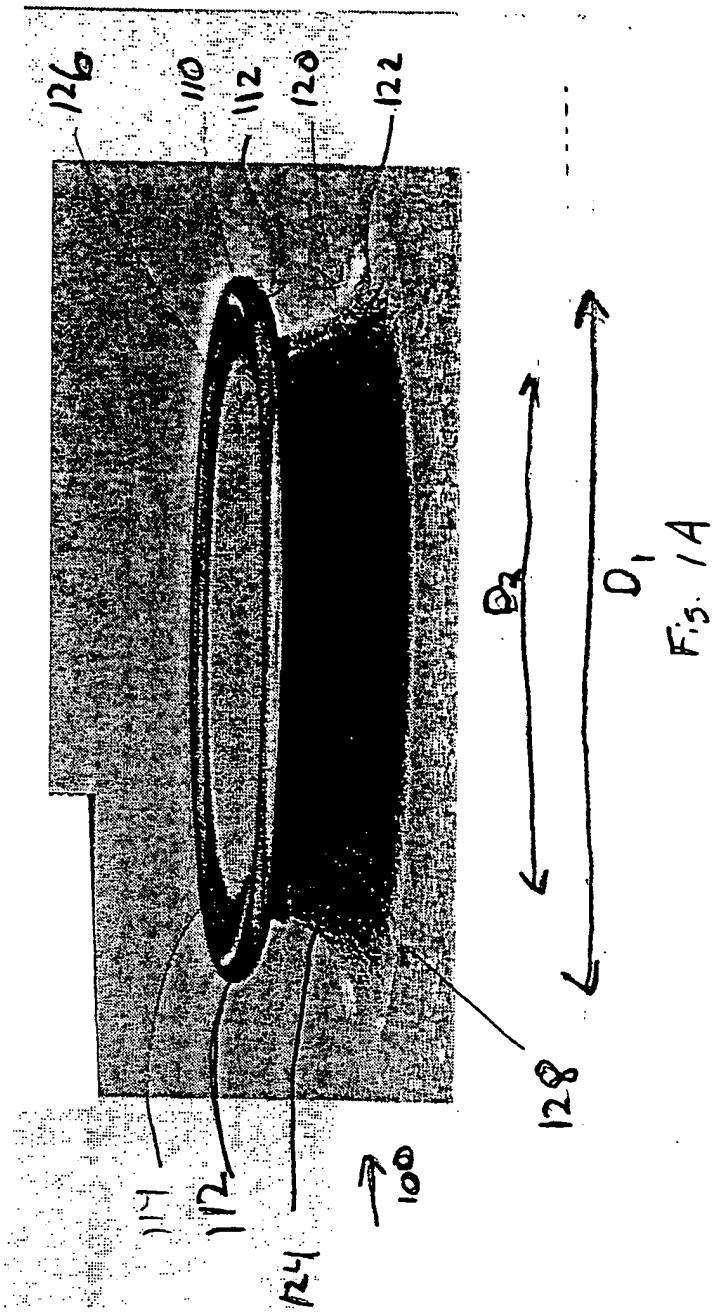


Fig. 1A

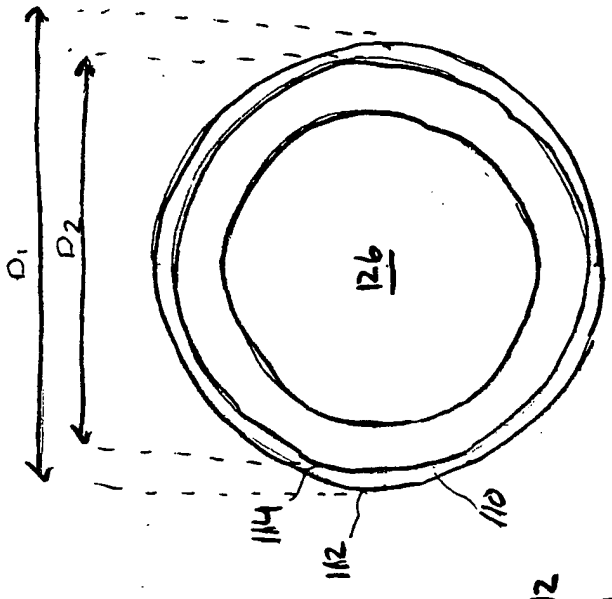


Fig. 1C

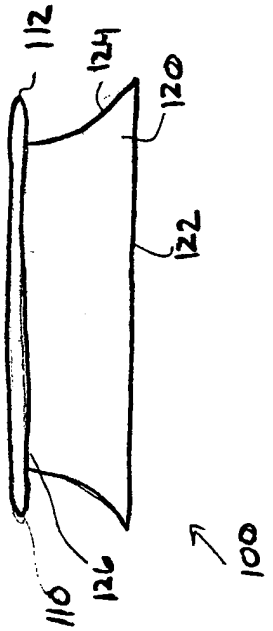


Fig. 1B

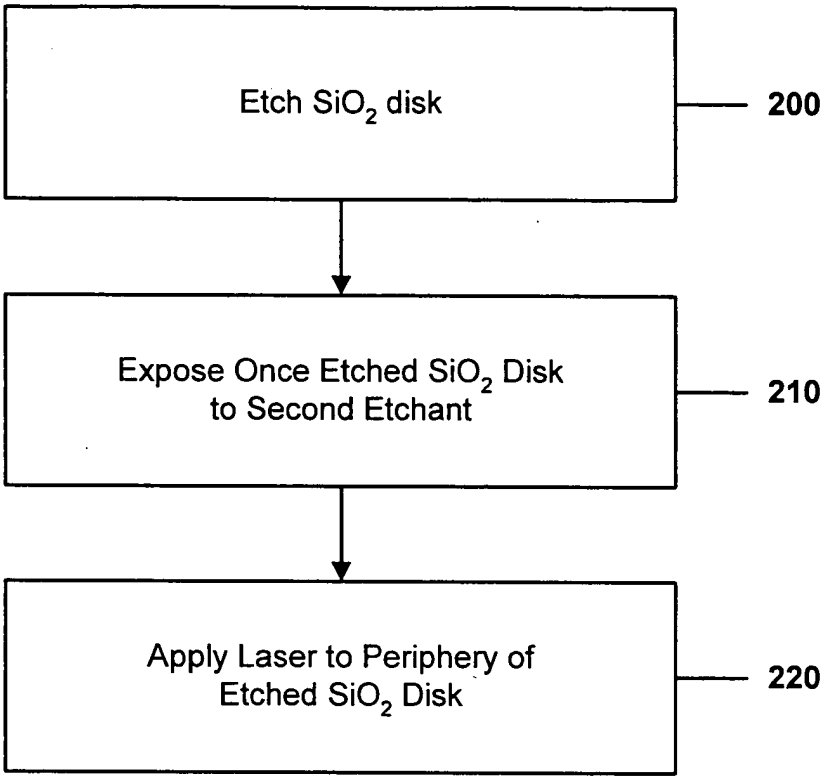

Etch SiO_2 disk
200
Expose Once Etched SiO_2 Disk to Second Etchant
210
Apply Laser to Periphery of Etched SiO_2 Disk
220

Fig. 2

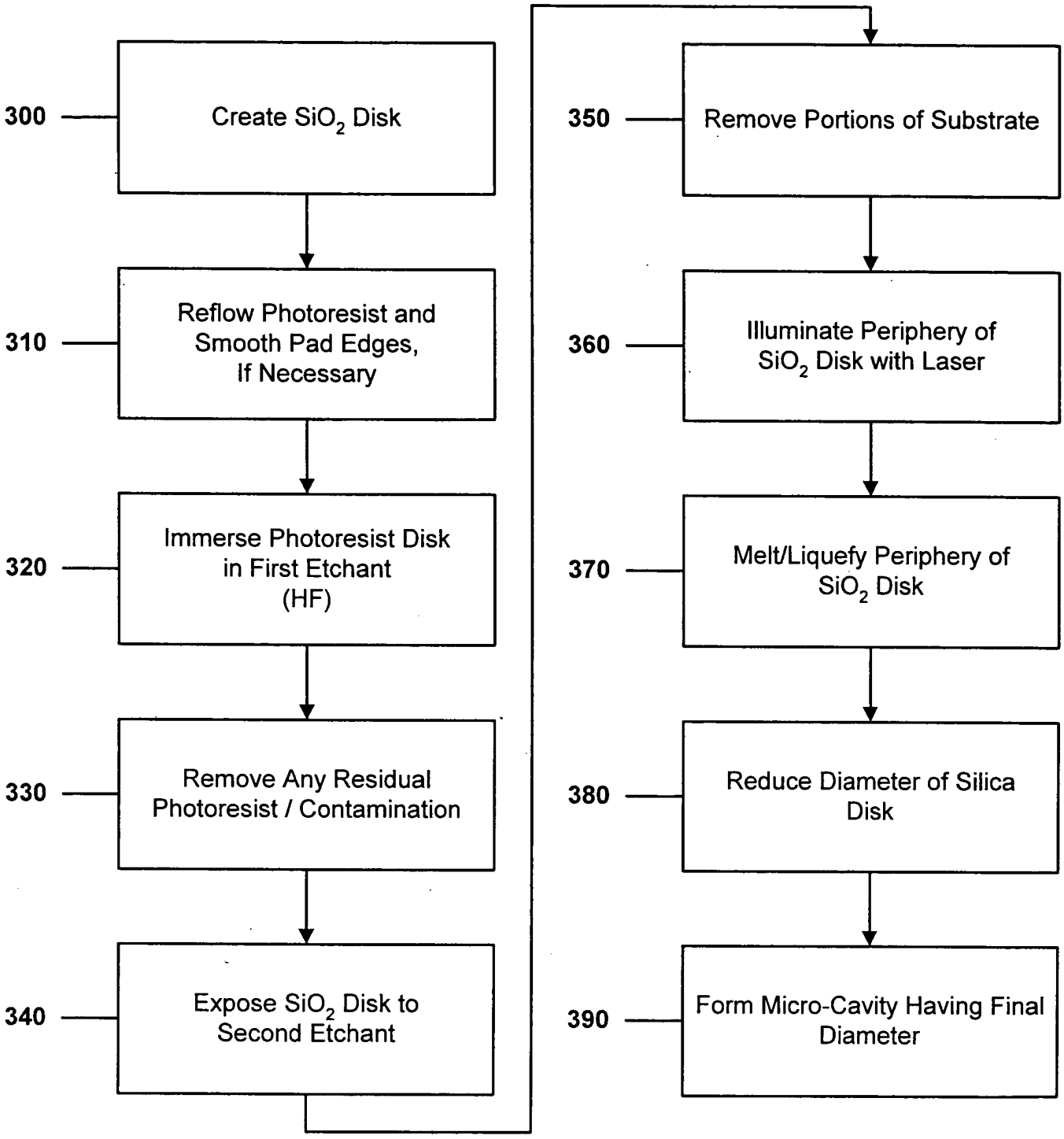

300
Create SiO_2 Disk
310
Reflow Photoresist and Smooth Pad Edges, If Necessary
320
Immerse Photoresist Disk in First Etchant (HF)
330
Remove Any Residual Photoresist / Contamination
340
Expose SiO_2 Disk to Second Etchant
350
Remove Portions of Substrate
360
Illuminate Periphery of SiO_2 Disk with Laser
370
Melt/Liquefy Periphery of SiO_2 Disk
380
Reduce Diameter of Silica Disk
390
Form Micro-Cavity Having Final Diameter

Fig. 3

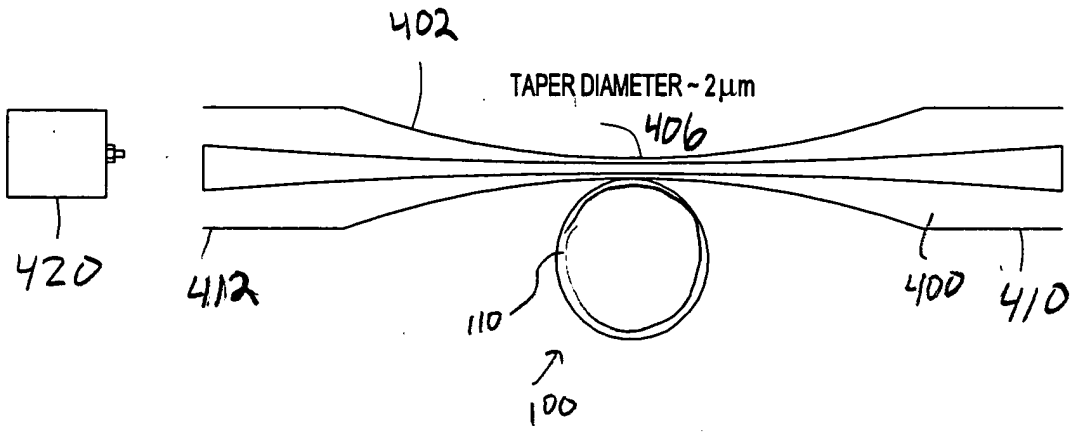


Fig. 4A

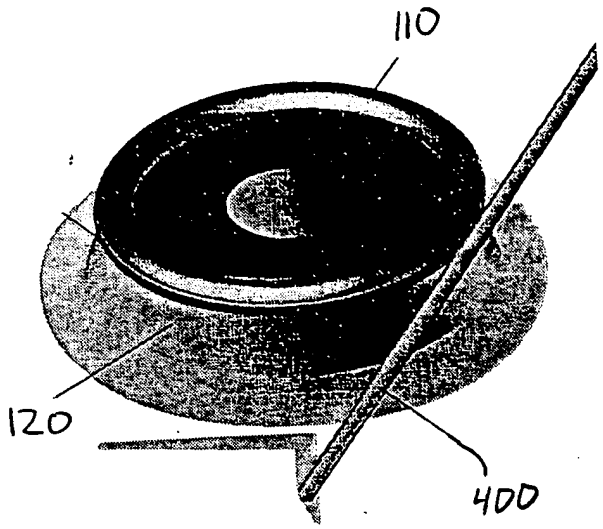


Fig. 4B

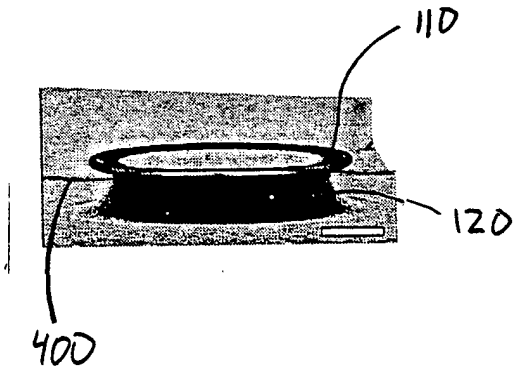


Fig. 4C

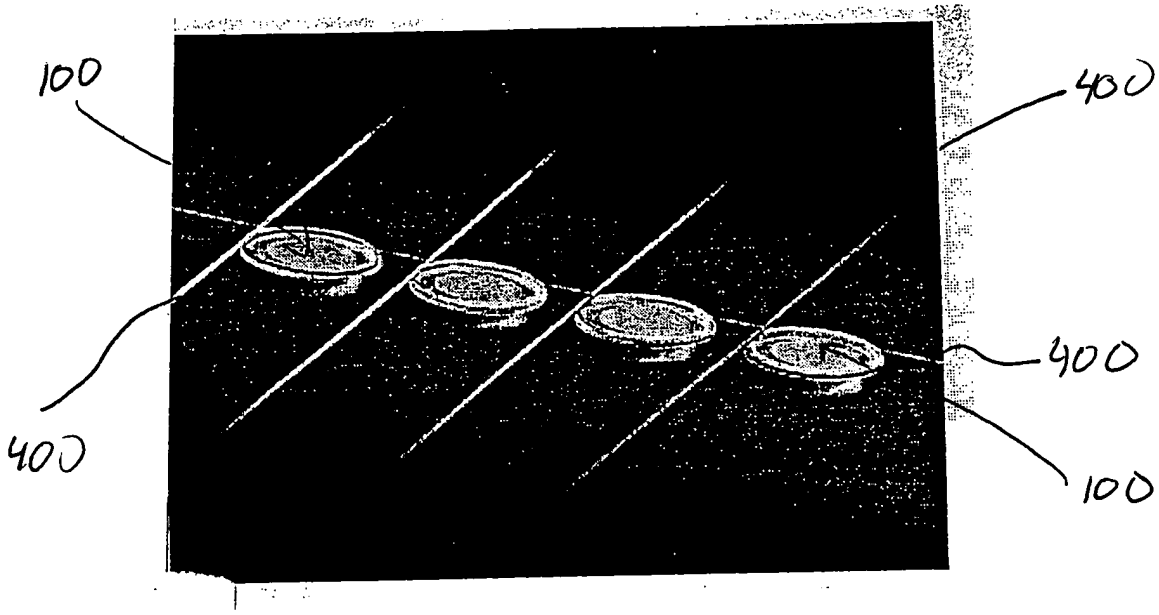


Fig. 4D

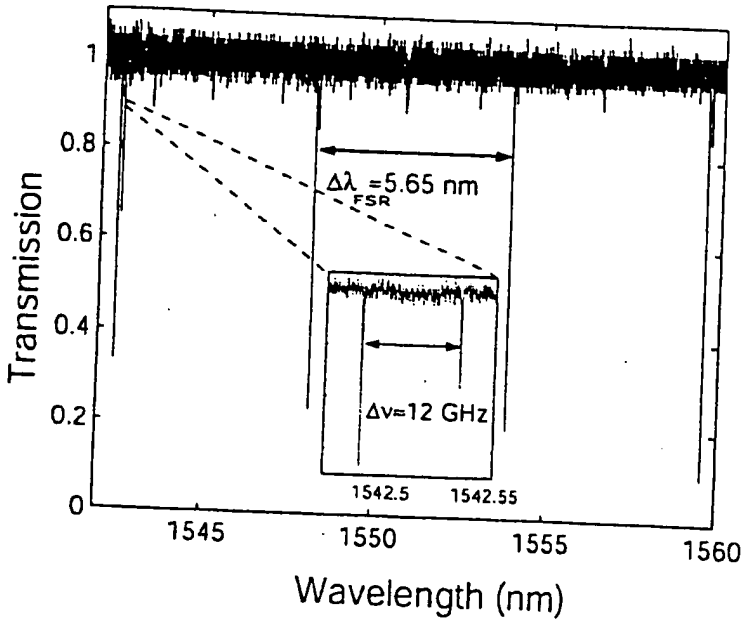

Transmission
1
0.8
0.6
0.4
0.2
0
$\Delta\lambda_{FSR}$ =5.65 nm
Δν=12 GHz
1542.5
1542.55
1545
1550
1555
1560
Wavelength (nm)

Fig. 5A

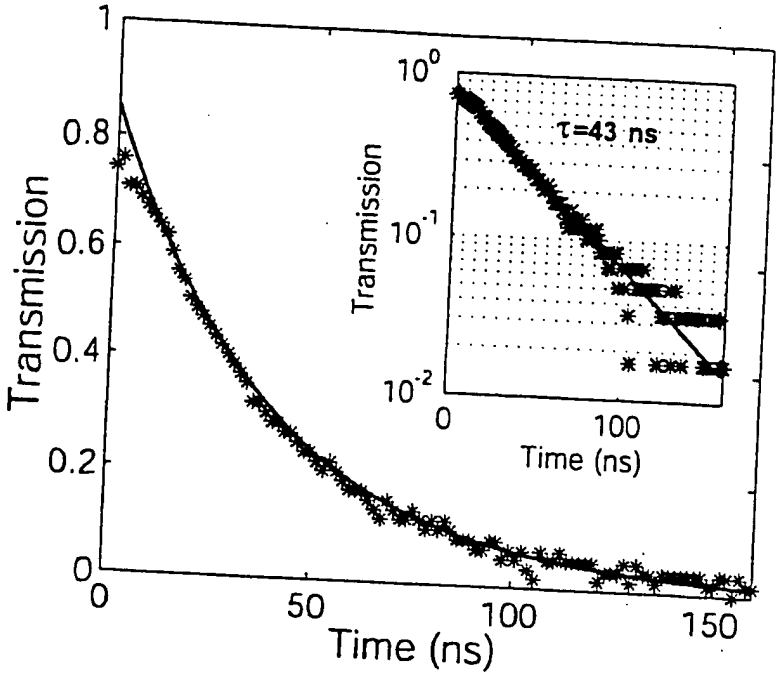


Fig. 5B

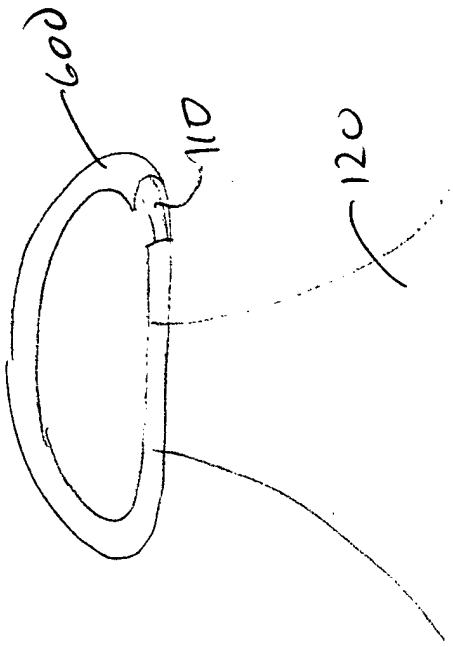


Fig. 6
(w/o taper guide)

Fig. 7A

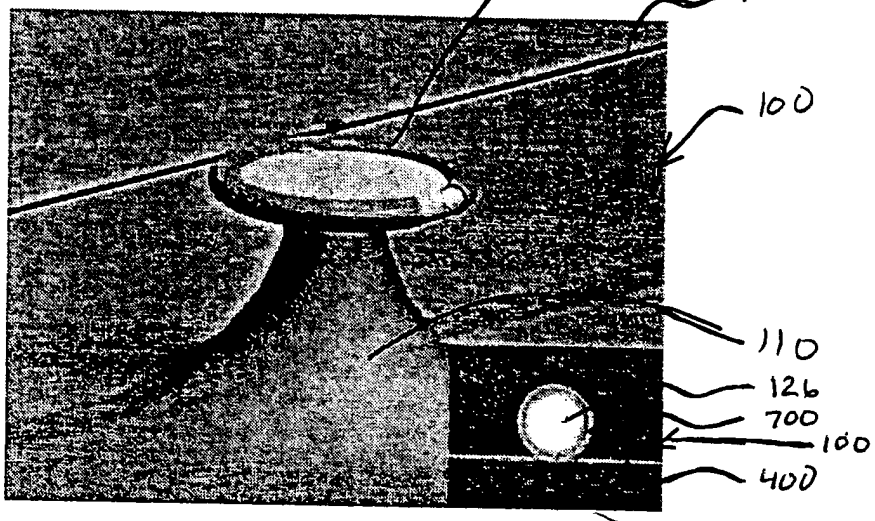
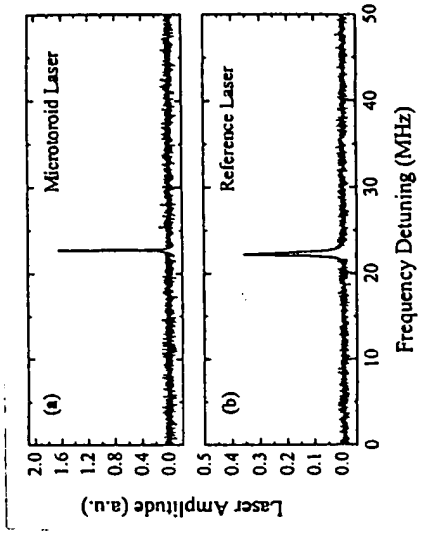
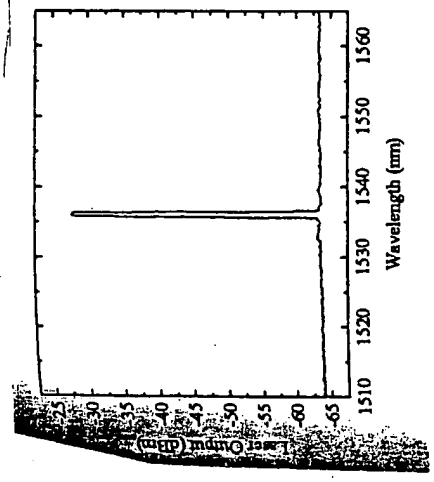


Fig. 7B



8B



8A

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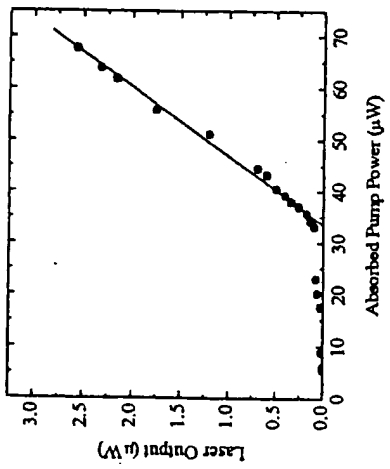

8C